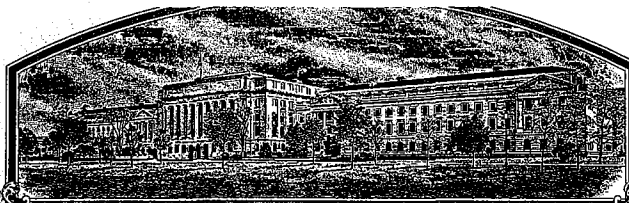


No.

200000293



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

DEKALB Genetics Corporation

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSE, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

CORN, FIELD

'01HGI4'



In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this eighteenth day of April, in the year two thousand two.

Attest

P. M. J. [Signature]

Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

Secretary of

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY - PLANT VARIETY PROTECTION OFFICE

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE
(Instructions and information collection burden statement on reverse)

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF OWNER DEKALB Genetics Corporation		2. TEMPORARY DESIGNATION OR EXPERIMENTAL NAME		3. VARIETY NAME 01HG14	
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country) 3100 Sycamore Road DeKalb, IL 60115		5. TELEPHONE (include area code) (815) 758-9281		FOR OFFICIAL USE ONLY PVPO NUMBER 2000002951	
		6. FAX (include area code) (815) 758-3117		FILING DATE 7-17-00	
7. IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION (corporation, partnership, association, etc.) Corporation		8. IF INCORPORATED, GIVE STATE OF INCORPORATION Delaware		9. DATE OF INCORPORATION June 15, 1988	
10. NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION. (First person listed will receive all papers)				FILING AND EXAMINATION FEES: \$ 2450.00 DATE 6-8-00 CERTIFICATION FEE: \$ 320.00 DATE 3/25/02	
11. TELEPHONE (Include area code) (815) 758-9281		12. FAX (Include area code) (815) 758-3117		13. E_MAIL tkain@dekalb.com	
14. CROP KIND (Common Name) Corn		15. GENUS AND SPECIES NAME OF CROP Zea mays		16. FAMILY NAME (Botanical) Gramineae	
17. IS THE VARIETY A FIRST GENERATION HYBRID? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		18. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow instructions on reverse) a. <input checked="" type="checkbox"/> Exhibit A. Origin and Breeding History of the Variety b. <input checked="" type="checkbox"/> Exhibit B. Statement of Distinctness c. <input checked="" type="checkbox"/> Exhibit C. Objective Description of Variety d. <input type="checkbox"/> Exhibit D. Additional Description of the Variety (Optional) e. <input checked="" type="checkbox"/> Exhibit E. Statement of the Basis of the Owner's Ownership f. <input checked="" type="checkbox"/> Voucher Sample (2,500 viable untreated seeds or, for tuber propagated varieties, verification that tissue culture will be deposited and maintained in an approved public repository) g. <input checked="" type="checkbox"/> Filing and Examination Fee (\$2,450), made payable to "Treasurer of the United States" (Mail to the Plant Variety Protection Office)		19. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE SOLD AS A CLASS OF CERTIFIED SEED? See Section 83(a) of the Plant Variety Protection Act <input type="checkbox"/> YES (If "yes", answer items 20 and 21 below) <input checked="" type="checkbox"/> NO (If "no," go to item 22)	
20. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? <input type="checkbox"/> YES <input type="checkbox"/> NO		21. IF "YES" TO ITEM 20, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED? <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED		22. HAS THE VARIETY (INCLUDING ANY HARVESTED MATERIAL) OR A HYBRID PRODUCED FROM THIS VARIETY BEEN SOLD, DISPOSED OF, TRANSFERRED, OR USED IN THE U. S. OR OTHER COUNTRIES? <input checked="" type="checkbox"/> YES U.S. February 2000 <input type="checkbox"/> NO IF YES, YOU MUST PROVIDE THE DATE OF FIRST SALE, DISPOSITION, TRANSFER, OR USE FOR EACH COUNTRY AND THE CIRCUMSTANCES. (Please use space indicated on reverse.)	
23. IS THE VARIETY OR ANY COMPONENT OF THE VARIETY PROTECTED BY INTELLECTUAL PROPERTY RIGHT (PLANT BREEDER'S RIGHT OR PATENT)? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF YES, PLEASE GIVE COUNTRY, DATE OF FILING OR ISSUANCE AND ASSIGNED REFERENCE NUMBER. (Please use space indicated on reverse.)		24. The owners declare that a viable sample of basic seed of the variety will be furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate. The undersigned owner(s) is(are) the owner of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 42, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act. Owner(s) is(are) informed that false representation herein can jeopardize protection and result in penalties.			
SIGNATURE OF OWNER Timothy R. Kain		SIGNATURE OF OWNER			
NAME (Please print or type) Timothy R. Kain		NAME (Please print or type)			
CAPACITY OR TITLE Patent Scientist		DATE 6/6/00		CAPACITY OR TITLE	
DATE		DATE		DATE	

GENERAL: To be effectively filed with the Plant Variety Protection Office (PVPO), ALL of the following items must be received in the PVPO: (1) Completed application form signed by the owner; (2) completed exhibits A, B, C, E; (3) for a seed reproduced variety at least 2,500 viable untreated seeds, for a hybrid variety at least 2,500 untreated seeds of each line necessary to reproduce the variety, or for tuber reproduced varieties verification that a viable (in the sense that it will reproduce an entire plant) tissue culture will be deposited and maintained in an approved public repository; (4) check drawn on a U.S. bank for \$2,450 (\$300 filing fee and \$2,150 examination fee), payable to "Treasurer of the United States" (See Section 97.6 of the Regulations and Rules of Practice.) Partial applications will be held in the PVPO for not more than 90 days, then returned to the applicant as unfilled. Mail application and other requirements to Plant Variety Protection Office, AMS, USDA, Room 500, NAL Building, 10301 Baltimore Avenue, Beltsville, MD 20705-2351. Retain one copy for your files. All items on the face of the application are self explanatory unless noted below. Corrections on the application form and exhibits must be initialed and dated. DO NOT use masking materials to make corrections. If a certificate is allowed, you will be requested to send a check payable to "Treasurer of the United States" in the amount of \$300 for issuance of the certificate. Certificates will be issued to owner, not licensee or agent.

Plant Variety Protection Office

Telephone: (301) 504-5518

FAX: (301) 504-5291

Homepage: <http://www.ams.usda.gov/science/pvp.htm>

ITEM

- 18a. Give: (1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method; (2) the details of subsequent stages of selection and multiplication; (3) evidence of uniformity and stability; and (4) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified
- 18b. Give a summary of the variety's distinctness. Clearly state how this application variety may be distinguished from all other varieties in the same crop. If the new variety is most similar to one variety or a group of related varieties:
- (1) identify these varieties and state all differences objectively;
 - (2) attach statistical data for characters expressed numerically and demonstrate that these are clear differences; and
 - (3) submit, if helpful, seed and plant specimens or photographs (prints) of seed and plant comparisons which clearly indicate distinctness
- 18c. Exhibit C forms are available from the PVPO Office for most crops; specify crop kind. Fill in Exhibit C (Objective Description of Variety) form as completely as possible to describe your variety.
- 18d. Optional additional characteristics and/or photographs. Describe any additional characteristics that cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the characteristics that are difficult to describe, such as plant habit, plant color, disease resistance, etc.
- 18e. Section 52(5) of the Act requires applicants to furnish a statement of the basis of the applicant's ownership. An Exhibit E form is available from the PVPO.
19. If "Yes" is specified (seed of this variety be sold by variety name only, as a class of certified seed), the applicant MAY NOT reverse this affirmative decision after the variety has been sold and so labeled, the decision published, or the certificate issued. However, if "No" has been specified, the applicant may change the choice. (See Regulations and Rules of Practice, Section 97.103).
22. See Sections 41, 42, and 43 of the Act and Section 97.5 of the regulations for eligibility requirements.
23. See Section 5.5 of the Act for instructions on claiming the benefit of an earlier filing date.

22. CONTINUED FROM FRONT (Please provide the date of first sale, disposition, transfer, or use for each country and the circumstances, if the variety (including any harvested material) or a hybrid produced from this variety has been sold, disposed of, transferred, or used in the U.S. or other countries.)

A hybrid produced from this variety was first sold in the United States - February 2000

23. CONTINUED FROM FRONT (Please give the country, date of filing or issuance, and assigned reference number, if the variety or any component of the variety is protected by intellectual property right (Plant Breeder's Right or Patent).)

NOTES: It is the responsibility of the applicant/owner to keep the PVPO informed of any changes of address or change of ownership or assignment or owner's representative during the life of the application/certificate. There is no charge for filing a change of address. The fee for filing a change of ownership or assignment or any modification of owner's name is specified in Section 97.175 of the regulations. (See Section 101 of the Act, and Sections 97.130, 97.131, 97.175(h) of the Regulations and Rules of Practice.)

To avoid conflict with other variety names in use, the applicant must check the variety names proposed by contacting: Seed Branch, AMS, USDA, Room 213, Building 306, Beltsville Agricultural Research Center—East, Beltsville, MD 20705. Telephone: (301) 504-8089.

Public reporting burden for this collection of information is estimated to average 30 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Department of Agriculture, Clearance Officer, OIRM, AG Box 7630, Jamie L. Whitten Building, Washington, D.C. 20250. When replying, refer to OMB No. 0581-0055 and form number in your letter. Under the PRA of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

The U.S. Department of Agriculture (USDA) prohibits discrimination in its programs on the basis of race, color, national origin, sex, religion, age, disability, political beliefs, and marital or familial status. (Not all prohibited bases apply to all programs). Persons with disabilities who require alternative means for communication of program information (braille, large print, audiotape, etc.) should contact the USDA Office of Communications at (202) 720-2791. To file a complaint, write the Secretary of Agriculture, U.S. Department of Agriculture, Washington, D.C. 20250, or call (202) 720-7327 (voice) or (202) 720-1127 (TDD). USDA is an equal opportunity employer.

S&T-470 (6-98) designed by the Plant Variety Protection Office with WordPerfect 6.0a. Replaces STD-470 (03-96) which is obsolete.

EXHIBIT A

Origin and Breeding History
01HGI4

01HGI4 was selected for its greater plant health, improved grain quality, with improved European Corn Borer resistance and greater combining ability.

Summer 1991	The inbred 01IBH2 (a DEKALB Genetics Corporation proprietary inbred) was crossed to inbred line MBZA (a DEKALB Genetics Corporation proprietary inbred) in nursery rows 91:201-79 and 91:202-50.
Winter 1991-92	The S0 seed was grown and self pollinated in nursery row 1W:M23-21.
Summer 1992	The S1 seed was grown and self pollinated in nursery rows 92:3-47 thru 92:3-66. 38 ears were selected.
Summer 1994	S2 ears were grown ear-to-row and self pollinated. 4 ears were selected in nursery row 94:125-3.
Winter 1994-95	The S3 ears were grown ear-to-row and self pollinated. In nursery row 4W:6U2642. 6 ears were selected.
Summer 1995	The S4 ears were grown ear-to-row and self pollinated. 3 ears from nursery row 95:140-3 were selected and designed as coded inbred 01HGI4.
Winter 1995-6	S5 ears were grown ear-to-row and self pollinated. 4 ears from nursery row 5W:6K37-36 were selected .
Summer 1996	The S6 ears were grown ear-to-row and self pollinated. 10 ears were selected from nursery row 96:214-46.
Winter 1996-97	S7 ears were grown ear-to-row and self pollinated. 16 ears were selected in nursery rows 6W:HQ12-7, 5, 3, 1.
Summer 1997	S8 ears were grown ear-to-row and self pollinated. Final selection of S9 ears were selected from nursery rows 97:126-29 thru 97:126-14

Statement of Stability and Uniformity

Corn inbred 01HGI4 was coded in 1995 with final selection made in 1997. This inbred has been reproduced by self pollination for three years and judged to be stable. Inbred 01HGI4 is uniform for all traits observed.

Statement of Variants

01HGI4 shows no variants other than what would normally be expected due to environment or that would occur for almost any character during the course of repeated sexual reproduction.

EXHIBIT BStatement of Distinctness

DEKALB Genetics Corporation believes that 01HGI4 is most similar to corn inbred MBZA, an inbred developed by DEKALB Genetics Corporation.

01HGI4 and MBZA differ most significantly in the following traits:

Qualitative Traits:

Trait	01HGI4	MBZA
Leaf Color	Medium Green 5 GY 4/8	Dark Green 5 GY 3/4
Anther Color	Green-Yellow 2.5 GY 8/6	Red 2.5 R 5/8

Quantitative Traits:

Trait	01HGI4	Std. Dev.	MBZA	Std. Dev.	Difference	Pvalue
Plant Height (cm)	166.1 (N=40)	1.08	135.6 (N=40)	0.63	30.5	0.00**
Ear Height (cm)	82.6 (N=40)	0.59	71.9 (N=40)	0.44	10.7	0.00**

Significance levels, indicated as follows: + = 10 percent, * = 5 percent, ** = 1 percent.

United States Department of Agriculture, Agricultural Marketing Service
Science Division, Plant Variety Protection Office
National Agricultural Library Building, Room 500
Beltsville, MD 20705

OBJECTIVE DESCRIPTION OF VARIETY
CORN (*Zea mays* L.)

Name of Applicant(s) DEKALB Genetics Corporation	Variety Seed Source	Variety Name or Temporary Designation 01HGI4																																										
Address (Street & No., or R.F.D. No., City, State, Zip Code and Country) 3100 Sycamore Road, DeKalb, IL 60115 U.S.A.		<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; text-align: center;">FOR OFFICIAL USE</td> <td style="width:50%;"></td> </tr> <tr> <td colspan="2"> PVPO Number 2000 0 0293 </td> </tr> </table>	FOR OFFICIAL USE		PVPO Number 2000 0 0293																																							
FOR OFFICIAL USE																																												
PVPO Number 2000 0 0293																																												
Place the appropriate number that describes the varietal characters typical of this inbred variety in the spaces below. Right justify whole numbers by adding leading zeroes if necessary. Completeness should be striven for to establish an adequate variety description. Traits designated by a '*' are considered necessary for an adequate variety description and must be completed.																																												
COLOR CHOICES (Use in conjunction with Munsell color code to describe all color choices; describe #25 and #26 in Comments section): <table style="width:100%; font-size: 0.8em;"> <tr> <td>01=Light Green</td> <td>06=Pale Yellow</td> <td>11=Pink</td> <td>16=Pale Purple</td> <td>21=Buff</td> </tr> <tr> <td>02=Medium Green</td> <td>07=Yellow</td> <td>12=Light Red</td> <td>17=Purple</td> <td>22=Tan</td> </tr> <tr> <td>03=Dark Green</td> <td>08=Yellow-Orange</td> <td>13=Cherry Red</td> <td>18=Colorless</td> <td>23=Brown</td> </tr> <tr> <td>04=Very Dark Green</td> <td>09=Salmon</td> <td>14=Red</td> <td>19=White</td> <td>24=Bronze</td> </tr> <tr> <td>05=Green-Yellow</td> <td>10=Pink-Orange</td> <td>15=Red & White</td> <td>20=White Capped</td> <td>25=Variegated (Describe)</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td>26=Other (Describe)</td> </tr> </table>			01=Light Green	06=Pale Yellow	11=Pink	16=Pale Purple	21=Buff	02=Medium Green	07=Yellow	12=Light Red	17=Purple	22=Tan	03=Dark Green	08=Yellow-Orange	13=Cherry Red	18=Colorless	23=Brown	04=Very Dark Green	09=Salmon	14=Red	19=White	24=Bronze	05=Green-Yellow	10=Pink-Orange	15=Red & White	20=White Capped	25=Variegated (Describe)					26=Other (Describe)												
01=Light Green	06=Pale Yellow	11=Pink	16=Pale Purple	21=Buff																																								
02=Medium Green	07=Yellow	12=Light Red	17=Purple	22=Tan																																								
03=Dark Green	08=Yellow-Orange	13=Cherry Red	18=Colorless	23=Brown																																								
04=Very Dark Green	09=Salmon	14=Red	19=White	24=Bronze																																								
05=Green-Yellow	10=Pink-Orange	15=Red & White	20=White Capped	25=Variegated (Describe)																																								
				26=Other (Describe)																																								
STANDARD INBRED CHOICES (Use the most similar (in background and maturity) of these to make comparisons based on grow-out trial data): <table style="width:100%; font-size: 0.8em;"> <tr> <td style="width:33%;"> Yellow Dent Families: Family Members B14 CM105, A632, B64, B68 B37 B37, B76, H84 B73 N192, A679, B73, NC268 C103 Mo17, Va102, Va35, A682 Oh43 A619, MS71, H99, Va26 WF9 W64A, A554, A654, Pa91 </td> <td style="width:33%;"> Yellow Dent (Unrelated): Co109, ND246, Oh7, T232 W117, W153R W182BN White Dent: CI66, H105, Ky228 </td> <td style="width:33%;"> Sweet Corn: C13, Iowa5125, P39, 2132 Popcorn: SG1533, 4722, HP301, HP7211 Pipecorn: Mo15W, Mo16W, Mo24W </td> </tr> </table>			Yellow Dent Families: Family Members B14 CM105, A632, B64, B68 B37 B37, B76, H84 B73 N192, A679, B73, NC268 C103 Mo17, Va102, Va35, A682 Oh43 A619, MS71, H99, Va26 WF9 W64A, A554, A654, Pa91	Yellow Dent (Unrelated): Co109, ND246, Oh7, T232 W117, W153R W182BN White Dent: CI66, H105, Ky228	Sweet Corn: C13, Iowa5125, P39, 2132 Popcorn: SG1533, 4722, HP301, HP7211 Pipecorn: Mo15W, Mo16W, Mo24W																																							
Yellow Dent Families: Family Members B14 CM105, A632, B64, B68 B37 B37, B76, H84 B73 N192, A679, B73, NC268 C103 Mo17, Va102, Va35, A682 Oh43 A619, MS71, H99, Va26 WF9 W64A, A554, A654, Pa91	Yellow Dent (Unrelated): Co109, ND246, Oh7, T232 W117, W153R W182BN White Dent: CI66, H105, Ky228	Sweet Corn: C13, Iowa5125, P39, 2132 Popcorn: SG1533, 4722, HP301, HP7211 Pipecorn: Mo15W, Mo16W, Mo24W																																										
1. TYPE: (describe intermediate types in Comments section) * 2 1=Sweet 2=Dent 3=Flint 4=Flour 5=Pop 6=Ornamental 7=Pipecorn		Standard Inbred Name MO17 2																																										
2. REGION WHERE DEVELOPED IN THE U.S.A.: * 2 1=Northwest 2=Northcentral 3=Northeast 4=Southeast 5=Southcentral 6=Southwest 7=Other		Standard Seed Source NCRIPS_ 2																																										
3. MATURITY (In Region Best Adaptability; show Heat Unit formula in "Comments" section): <table style="width:100%; font-size: 0.8em;"> <tr> <th style="width:15%;">DAYS</th> <th style="width:15%;">HEAT UNITS</th> <th style="width:40%;">Description</th> <th style="width:15%;">DAYS</th> <th style="width:15%;">HEAT UNITS</th> </tr> <tr> <td>* 7 3</td> <td>1 4 7 8.5</td> <td>From emergence to 50% of plants in silk</td> <td>0 6 8</td> <td>1 3 3 5.0</td> </tr> <tr> <td>* 7 3</td> <td>1 4 6 0.0</td> <td>From emergence to 50% of plants in pollen</td> <td>0 7 5</td> <td><u>1 5 0 7.0</u></td> </tr> <tr> <td>— — —</td> <td>— — — .0</td> <td>From 10% to 90% pollen shed</td> <td>— — —</td> <td>2 9 2 6.0</td> </tr> <tr> <td>(*) — —</td> <td>— — — .</td> <td>From 50% silk to optimum edible quality</td> <td>— — —</td> <td>— — — .</td> </tr> <tr> <td>— — —</td> <td>— — — .</td> <td>From 50% silk to harvest at 25% moisture</td> <td>0 9 0</td> <td>1 5 2 9.0</td> </tr> </table>		DAYS	HEAT UNITS	Description	DAYS	HEAT UNITS	* 7 3	1 4 7 8.5	From emergence to 50% of plants in silk	0 6 8	1 3 3 5.0	* 7 3	1 4 6 0.0	From emergence to 50% of plants in pollen	0 7 5	<u>1 5 0 7.0</u>	— — —	— — — .0	From 10% to 90% pollen shed	— — —	2 9 2 6.0	(*) — —	— — — .	From 50% silk to optimum edible quality	— — —	— — — .	— — —	— — — .	From 50% silk to harvest at 25% moisture	0 9 0	1 5 2 9.0	<div style="text-align: right; font-size: 0.8em;"> JMS 2/20 </div>												
DAYS	HEAT UNITS	Description	DAYS	HEAT UNITS																																								
* 7 3	1 4 7 8.5	From emergence to 50% of plants in silk	0 6 8	1 3 3 5.0																																								
* 7 3	1 4 6 0.0	From emergence to 50% of plants in pollen	0 7 5	<u>1 5 0 7.0</u>																																								
— — —	— — — .0	From 10% to 90% pollen shed	— — —	2 9 2 6.0																																								
(*) — —	— — — .	From 50% silk to optimum edible quality	— — —	— — — .																																								
— — —	— — — .	From 50% silk to harvest at 25% moisture	0 9 0	1 5 2 9.0																																								
4. PLANT: <table style="width:100%; font-size: 0.8em;"> <tr> <th></th> <th>Standard Deviation</th> <th>Sample Size</th> <th></th> <th>Standard Deviation</th> <th>Sample Size</th> </tr> <tr> <td>* 1 7 9.2 cm Plant Height (to tassel tip)</td> <td>0.778</td> <td>60</td> <td>2 2 4.7</td> <td>13.790</td> <td>120</td> </tr> <tr> <td>* 0 6 9.2 cm Ear Height (to base of top ear node)</td> <td>1.273</td> <td>60</td> <td>0 8 4.8</td> <td>7.592</td> <td>120</td> </tr> <tr> <td>0 1 2.3 cm Length of Top Ear Internode</td> <td>2.051</td> <td>60</td> <td>0 1 4.8</td> <td>1.555</td> <td>120</td> </tr> <tr> <td colspan="6" style="text-align: center;">Average Number of Tillers</td> </tr> <tr> <td>* 1.0 Average Number of Ears per Stalk</td> <td>0.000</td> <td>60</td> <td>0 0 1.0</td> <td>0.078</td> <td>120</td> </tr> <tr> <td colspan="6">1 Anthocyanin of Brace Roots: 1=Absent 2=Faint 3=Moderate 4=Dark</td> </tr> </table>			Standard Deviation	Sample Size		Standard Deviation	Sample Size	* 1 7 9.2 cm Plant Height (to tassel tip)	0.778	60	2 2 4.7	13.790	120	* 0 6 9.2 cm Ear Height (to base of top ear node)	1.273	60	0 8 4.8	7.592	120	0 1 2.3 cm Length of Top Ear Internode	2.051	60	0 1 4.8	1.555	120	Average Number of Tillers						* 1.0 Average Number of Ears per Stalk	0.000	60	0 0 1.0	0.078	120	1 Anthocyanin of Brace Roots: 1=Absent 2=Faint 3=Moderate 4=Dark						1
	Standard Deviation	Sample Size		Standard Deviation	Sample Size																																							
* 1 7 9.2 cm Plant Height (to tassel tip)	0.778	60	2 2 4.7	13.790	120																																							
* 0 6 9.2 cm Ear Height (to base of top ear node)	1.273	60	0 8 4.8	7.592	120																																							
0 1 2.3 cm Length of Top Ear Internode	2.051	60	0 1 4.8	1.555	120																																							
Average Number of Tillers																																												
* 1.0 Average Number of Ears per Stalk	0.000	60	0 0 1.0	0.078	120																																							
1 Anthocyanin of Brace Roots: 1=Absent 2=Faint 3=Moderate 4=Dark																																												
Application Variety Data		Standard Inbred Data																																										

Application Variety Data				Page 2	Standard Inbred Data					
5. LEAF:				Standard Deviation	Sample Size	Standard Deviation Sample Size				
*	0	0	9. 5 cm Width of Ear Node Leaf	0.990	60	0	0	9. 0	0.721	120
*	0	6	9. 3 cm Length of Ear Node Leaf	0.424	60	0	6	9. 2	3.387	120
*			4. 8 Number of leaves above top ear	0.283	30	5.	1		0.383	50
	1		9. 5 degrees Leaf Angle (measure from 2nd leaf above ear at anthesis to stalk above leaf)	0.000	60	3	3.	5	5.875	100
*		0	2 Leaf Color (Munsell code 5 GY 4/8)			0	2	(Munsell code 5 GY 4/8)		
			4 Leaf Sheath Pubescence(Rate on scale from 1=none to 9=peach fuzz)			2				
			2 Marginal Waves (Rate on scale from 1=none to 9=many)			5				
			6 Longitudinal Creases (Rate on scale from 1=none to 9=many)			4				
6. TASSEL:				Standard Deviation	Sample Size	Standard Deviation Sample Size				
*	0	5.	7 Number of Primary Lateral Branches	0.000	60	6.	0		0.640	120
	0	8.	5 Branch Angle from Central Spike	3.536	60	4	6.	1	8.382	100
*	3	7.	8 cm Tassel Length (from top leaf collar to tassel tip)	0.283	60	4	7.	1	5.755	120
		3.	5 Pollen Shed (Rate on scale from 0=male sterile to 9=heavy shed)			4.	3			
	0	5	Anther Color (Munsell code 2.5 GY 8/6)			0	5	(Munsell code 2.5 GY 8/6)		
	0	2	Glume Color (Munsell code 5 GY 4/8)			0	2	(Munsell code 5 GY 4/8)		
		1	Bar Glumes (Glume Bands): 1=Absent 2=Present			1				
7a. EAR (Unhusked Data):						1 1 (Munsell code 2.5 R 7/6)				
*	0	5	Silk Color (3 days after emergence) (Munsell code 2.5 GY 8/6)			0	2	(Munsell code 5 GY 4/8)		
	0	2	Fresh Husk Color (25 days after 50% silking) (Munsell code 5 GY 4/8)			2	1	(Munsell code 2.5 Y 8/4)		
	2	1	Dry Husk Color (65 days after 50% Silking) (Munsell code 2.5 Y 8/4)			1				
*		1	Position of Ear at Dry Husk Stage: 1=Upright 2=Horizontal 3=Pendent			4				
		3	Husk Tightness (Rate on scale from 1=very loose to 9=very tight)			1				
		2	Husk Extension (at harvest): 1=Short (ears exposed) 2=Medium (<8 cm) 3=Long (8-10 cm beyond ear tip) 4=Very Long (>10 cm)							
7b. EAR (Husked Ear Data):				Standard Deviation	Sample Size	Standard Deviation Sample Size				
*	1	5.	4 cm Ear Length	0.212	30	1	8.	6	1.835	60
*	4	2.	4 mm Ear Diameter at mid-point	0.000	30	3	5.	3	1.638	60
	1	2	8. 5 gm Ear Weight	2.192	60	1	0	4.	3	23.000
*		1	6 Number of Kernel Rows	0.283	30	1	1		0.599	60
			2 Kernel Rows: 1=Indistinct 2=Distinct			2				
			1 Row Alignment: 1=Straight 2=Slightly Curved 3=Spiral			2				
	1	0.	5 cm Shank Length	0.141	60	1	3.	1	2.795	120
			2 Ear Taper: 1=Slight 2=Average 3=Extreme			2				
Application Variety Data					Standard Inbred Data					
Note: Use chart on first page to choose color codes for color traits.										

Application Variety Data			Page 3	Standard Inbred Data		
8. KERNEL (Dried):			Standard Deviation	Sample Size	Standard Deviation Sample Size	
1	1.5 mm Kernel Length		0.141	30	1	0.5 0.715 60
0	7.1 mm Kernel Width		0.424	30	0	8.5 0.525 60
0	3.5 mm Kernel Thickness		0.141	30	0	4.4 0.339 60
1	9.7 % Round Kernels (Shape Grade)			500g	3	1.7 500g
1 Aleurone Color Pattern: 1=Homozygous 2=Segregating					1	
(*)	1	9 Aleurone Color (Munsell code Lighter than 2.5 Y 9/2)			1	9 (Munsell code Lighter Than 2.5 Y 9/2)
*	0	7 Hard Endosperm Color (Munsell code 2.5 Y 8/10)			0	7 (Munsell code 2.5 Y 8/10)
*	0	3 Endosperm Type: 1=Sweet (sul) 2=Extra Sweet (sh2) 3=Normal Starch 4=High Amylose Starch 5=Waxy Starch 6=High Protein 7=High Lysine 8=Super Sweet (se) 9=High Oil 10=Other			0	3
2	6.2 gm Weight per 100 Kernels (unsized sample)		1.131	600 seeds	2	9.5 3.826 1200 seeds
9. COB:			Standard Deviation	Sample Size	Standard Deviation Sample Size	
*	2	3.9 mm Cob Diameter at mid-point	1.838	30	1	8.5 1.460 60
1	4	Cob Color (Munsell code 5 R 3/8)			1	4 (Munsell code 5 R 3/8)
10. DISEASE RESISTANCE (Rate from 1 (most susceptible) to 9 (most resistant); leave blank if not tested; leave Race or Strain Options blank if polygenic):						
A. Leaf Blights, Wilts, and Local Infection Diseases						
4 Anthracnose Leaf Blight (<i>Colletotrichum graminicola</i>)					8	
_ Common Rust (<i>Puccinia sorghi</i>)					7	
_ Common Smut (<i>Ustilago maydis</i>)						
8 Eyespot (<i>Kabatiella zeae</i>)					7	
7 Goss's Wilt (<i>Clavibacter michiganense</i> spp. <i>nebraskense</i>)					8	
2 Gray Leaf Spot (<i>Cercospora zeae-maydis</i>)					6	
8 Helminthosporium Leaf Spot (<i>Bipolaris zeicola</i>) Race 2					8	Race 2
6 Northern Leaf Blight (<i>Exserohilum turcicum</i>) Race 2					8	Race 2
5 Southern Leaf Blight (<i>Bipolaris maydis</i>) Race 0					8	Race 0
_ Southern Rust (<i>Puccinia polysora</i>)					5	
6 Stewart's Wilt (<i>Erwinia stewartii</i>)						
_ Other (Specify) _____						
B. Systemic Diseases						
6 Corn Lethal Necrosis (MCMV and MDMV)					5	
_ Head Smut (<i>Sphacelotheca reiliana</i>)					8	
_ Maize Chlorotic Dwarf Virus (MCDV)						
_ Maize Chlorotic Mottle Virus (MCMV)						
_ Maize Dwarf Mosaic Virus (MDMV) Strain _____					4	Strain _____
_ Sorghum Downy Mildew of Corn (<i>Peronosclerospora sorghi</i>)						
_ Other (Specify) _____						
C. Stalk Rots						
_ Anthracnose Stalk Rot (<i>Colletotrichum graminicola</i>)						
_ Diplodia Stalk Rot (<i>Stenocarpella maydis</i>)						
_ Fusarium Stalk Rot (<i>Fusarium moniliforme</i>)						
_ Gibberella Stalk Rot (<i>Gibberella zeae</i>)						
_ Other (Specify) _____						
D. Ear and Kernel Rots						
_ Aspergillus Ear and Kernel Rot (<i>Aspergillus flavus</i>)						
_ Diplodia Ear Rot (<i>Stenocarpella maydis</i>)						
_ Fusarium Ear and Kernel Rot (<i>Fusarium moniliforme</i>)						
_ Gibberella Ear Rot (<i>Gibberella zeae</i>)						
_ Other (Specify) _____						
Application Variety Data				Standard Inbred Data		
Note: Use chart on first page to choose color codes for color traits.						

Application Variety Data			Page 4		Standard Inbred Data		
11. INSECT RESISTANCE (Rate from 1 (most susceptible) to 9 (most resistant); leave blank if not tested):							
	Standard Deviation	Sample Size		Standard Deviation	Sample Size		
- Banks Grass Mite (<i>Oligonychus pratensis</i>)			-				
- Corn Earworm (<i>Helicoverpa zea</i>)			-				
- Leaf-Feeding			-				
- Silk Feeding :			-				
- Ear Damage			-				
- Corn Leaf Aphid (<i>Rhopalosiphum maidis</i>)			-				
- Corn Sap Beetle (<i>Carpophilus dimidiatus</i>)			-				
- European Corn Borer (<i>Ostrinia nubilalis</i>)			-				
7 1st Generation (Typically Whorl Leaf Feeding)			3				
4 2nd Generation (Typically Leaf Sheath-Collar Feeding)			5				
- Stalk Tunneling :							
- cm tunneled/plant							
- Fall Armyworm (<i>Spodoptera frugiperda</i>)			-				
- Leaf-Feeding			-				
- Silk-Feeding :			-				
- mg larval wt.			-				
- Maize Weevil (<i>Sitophilus zeamais</i>)			-				
- Northern Rootworm (<i>Diabrotica barberi</i>)			-				
- Southern Rootworm (<i>Diabrotica undecimpunctata</i>)			-				
- Southwestern Corn Borer (<i>Diatraea grandiosella</i>)			-				
- Leaf Feeding			-				
- Stalk Tunneling :			-				
- cm tunneled/plant			-				
- Two-spotted Spider Mite (<i>Tetranychus urticae</i>)			-				
- Western Rootworm (<i>Diabrotica virgifera virgifera</i>)			-				
- Other (Specify)			-				
12. AGRONOMIC TRAITS:							
7 Stay Green (at 65 days after anthesis) (Rate on a scale from 1=worst to 9=excellent.)			8				
0 1.5 % Dropped Ears (at 65 days after anthesis)			0 0.0				
0 0.0 % Pre-anthesis Brittle Snapping			0 0.0				
0 0.0 % Pre-anthesis Root Lodging			0 0.9				
0 0.8 % Post-anthesis Root Lodging (at 65 days after anthesis)			0 0.0				
4 0 9 2.1 Kg/ha Yield of Inbred Per Se (at 12-13% grain moisture)			3 3 6 5.9				
13. MOLECULAR MARKERS: (0=data unavailable; 1=data available but not supplied; 2=data supplied)							
1 Isozymes	1 RFLP's	0 RAPD's					
REFERENCES:							
<p>Butler, D.R. 1954. A System for the Classification of Corn Inbred Lines. PhD Thesis, Ohio State University.</p> <p>Emerson, R.A., G.W. Beadle, and A.C. Fraser. 1935. A Summary of Linkage Studies in Maize. Cornell A.E.S., Mem. 180.</p> <p>Farr, D.F., G.F. Bills, G.P. Chamuris, A.Y. Rossman. 1989. Fungi on Plant and Plant Products in the United States. The American Phytopathological Society, St. Paul, MN.</p> <p>Inglett, G.E. (Ed.) 1970. Corn: Culture, Processing, Products. Avi Publishing Company, Westport, CT.</p> <p>Jugenheimer, R.W. 1976. Corn: Improvement, Seed Production, and Uses. John Wiley & Sons, New York.</p> <p>McGee, D.C. 1988. Maize Diseases. APS Press, St. Paul, MN. 150 pp.</p> <p>Munsell Color Chart for Plant Tissues. Macbeth. P.O. Box 230. Newburgh, N.Y. 12551-0230</p> <p>The Mutants of Maize. 1968. Crop Science Society of America. Madison, WI.</p> <p>Shurtleff, M.C. 1980. Compendium of Corn Diseases. APS Press, St. Paul, MN. 105 pp.</p> <p>Sprague, G.F., and J.W. Dudley (Editors). 1988. Corn and Corn Improvement, Third Edition. Agronomy Monograph 18. ASA, CSSA, SSSA, Madison, WI.</p> <p>Stringfield, G.H. Maize Inbred Lines of Ohio. Ohio A.E.S., Bul. 831. 1959.</p> <p>U.S. Department of Agriculture. 1936, 1937. Yearbook.</p>							
COMMENTS (eg. state how heat units were calculated, standard inbred seed source, and/or where data was collected. Continue in Exhibit D):							
Heat Unit Calculation: $\text{GDU} = \frac{\text{Daily Max Temp } (<=86^{\circ}\text{F}) + \text{Daily Min Temp } (>=50^{\circ}\text{F})}{2} - 50^{\circ}\text{F}$							
<p>data collected for 'MO17' occurred at 4 test locations over 5 years for a total sample size of 120 plants measured. Data was reported as means across years and locations. Each of the aforementioned characteristics had a wide range of values due to spacial and temporal variation of the test contributing to the large standard deviation. Growing conditions (soil, climate, drought conditions, etc.) contributed significantly to influence the variability of the traits measured.</p>							

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

EXHIBIT E
STATEMENT OF THE BASIS OF OWNERSHIP

1. NAME OF APPLICANT(S) DEKALB Genetics Corporation	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER	3. VARIETY NAME 01HGI4
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP, and Country) 3100 Sycamore Road DeKalb, IL 60115 U.S.A.	5. TELEPHONE (include area code) (815) 758-9281	6. FAX (include area code) (815) 758-3117
8. Does the applicant own all rights to the variety? Mark an "X" in appropriate block. If no, please explain.		
9. Is the applicant (individual or company) a U.S. national or U.S. based company? If no, give name of country		
10. Is the applicant the original owner?		
a. If original rights to variety were owned by individual(s), is (are) the original owner(s) a U.S. national(s)?		
b. If original rights to variety were owned by a company(ies), is(are) the original owner(s) a U.S. based company?		
11. Additional explanation on ownership (if needed, use reverse for extra space):		

PLEASE NOTE:

Plant variety protection can be afforded only to owners (not licensees) who meet one of the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.
2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.
3. If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

The original breeder/owner may be the individual or company who directed final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definition.

According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 10 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in its programs on the basis of race, color, national origin, sex, religion, age, disability, political beliefs, and marital or familial status. (Not all prohibited bases apply to all programs). Persons with disabilities who require alternative means for communication of program information (braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 202-720-2600 (voice and TDD).

To file a complaint, write the Secretary of Agriculture, U.S. Department of Agriculture, Washington, D.C. 20250, or call 1-800-245-6340 (voice) or (202) 720-1127 (TDD). USDA is an equal employment opportunity employer.

STD-470-E (07-97) (Destroy previous editions).

Electronic version designed using WordPerfect InForms by USDA-AMS-IMB.